Permit Fact Sheet

General Information

Permit Number:	WI-0036374-07-0	
Permittee Name:	LAKE TOMAHAWK TOWNSHIP SANITARY DISTRICT 1	
Address:	PO Box 387 7848 Pine Road	
City/State/Zip:	Lake Tomahawk WI 54539	
Discharge Location:	SW ¼ SE ¼ of section 36; T39N-R7E	
Receiving Water:	The Wisconsin River in the Rhinelander Flowage Watershed in the Upper Wisconsin River Drainage Basin in Oneida County	
StreamFlow ($Q_{7,10}$):	127 cfs	
Stream Classification:	Fish and aquatic life, warm water sport fishery	
Design Flow(s)	Annual Average	0.0537 MGD
Significant Industrial Loading?	No	
Operator at Proper Grade?	Yes	
Approved Pretreatment Program?	N/A	

Facility Description

The Lake Tomahawk Sanitary District owns and operates a wastewater treatment system with an annual average design flow of 53,700 gallons per day. The actual average discharge is 23,000 gallons per day (June 2015- June 2020 data).

Wastewater (influent) generated from each home enters grinder pump pits where it is pumped and conveyed through small pressurized diameter pipes ranging from 1.25" to 6" to the wastewater treatment plant. In addition to residential homes and small local commercial establishments, wastewater treatment for the Wisconsin Department of Corrections McNaughton Camp facility is also conveyed and treated by the Lake Tomahawk Sanitary district. At the wastewater treatment plant, the influent flows into 3 settling chambers used for settling and sludge storage. The wastewater from the settling chambers then travels to a dosing chamber before further treatment through a recirculating sand filter (RSF). An RSF works by the water from the settling chambers being pumped and evenly distributed over one or more of five filter beds constructed of layers of fine and coarse sand. Naturally occurring microorganisms living on the sand particles within the filter beds further treat this water. The water from the filters may be sent back to the dosing chamber and filtered again multiple times. After recirculation and re-filtration, the treated effluent is disinfected seasonally (May – September) using an ultraviolet system and pumped through a 1.75-mile-long force main before being discharged to the Wisconsin River in Oneida County. The solids from the settling chambers are pumped regularly to prevent the discharge of accumulated solids to the sand filters. These solids are considered septage and are regulated under NR 113, Wisconsin Administrative Code, for septage disposal

The recirculating sand filter system replaced a septic tank and mound system that discharged to groundwater. Due to high levels of nitrite-nitrate nitrogen in the groundwater monitoring wells surrounding the former wastewater treatment facility, monitoring of the groundwater wells has been required annually, however given current data, the Department will consider abandonment in accordance with NR 141.25 based upon request by the sanitary district.

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)**
701	INFLUENT An average of 0.024 MGD (June 2015- June 2020 data)	Representative samples shall be collected from the influent line sanitary tee within the first settling chamber.
003	EFFLUENT An average of 0.023 MGD (June 2015 – June 2020 data)	Representative samples shall be collected from the effluent channel prior to discharge to the Wisconsin River.
990	SEPTAGE Flow is not a required parameter	Solids from the septic tank may be land applied using a licensed septage hauler. All septage activities shall be regulated under ch. NR 113, Wis. Adm. Code.

Sample Point Designation For Groundwater Monitoring Systems		
Sample Pt Number	**Well Name**	**Comments**
801	801 (MW1) BACKGROUND	Up gradient well
802	802 (MW2)	Down gradient well
804	804 (MW4)	Down gradient well – ES

Substantial Compliance Determination

	Compliance?	Comments
Discharge limits	Yes	Avg. effluent characteristics from April 2015 – July 2020 are: BOD5 11.44 mg/L Fecal Coliform 20.5 #/100mL Flow Rate 0.027 MGD pH 6.76 su TSS 7.67 mg/L P, Total 6.10 mg/L N, Ammonia 16.3 mg/L
Sampling/testing requirements	Yes	
Groundwater standards	Yes	The facility has not been a groundwater discharger since 1999, when the recirculating sand filter came online. As per previous compliance determinations, it is recommended that the facility either properly decommission the wells, or continue to monitor them annually, though either option is permissible. Considering the current overarching uncertainties, it would be prudent for the sanitary district to perform a financial analysis to determine which option is best suited for them. I recommend that the permit include annual well monitoring requirements, with a schedule for a feasibility report on well-decommissioning vs continued monitoring, to be completed by at least the beginning of the 3rd year of the permit.

Reporting requirements	Yes		
Schedules	Yes	A CMOM was developed in accordance with the current permit's schedule.	
Management plan	N/A		
Operator at proper grade	Yes	The operator does not yet have a certification for the Sanitary Sewer Collection System Subclass that was very recently introduced. The facility is compliant but will need to obtain the certification before the expiration of their next permit.	
Other	Current Plant Subclasses: A3. Recirculating Media Filters; D. Disinfection; SS. Sanitary Sewage Collection System		
Enforcement considerations	None		
In substantial compliance?	Yes		
	Concurrence: Austin Griesbach		Date: 09/08/2020

1 Influent - Proposed Monitoring

Sample Point Number: 701- INFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Continuous	Continuous	
BOD5, Total		mg/L	Weekly	24-Hr Comp	
Suspended Solids, Total		mg/L	Weekly	24-Hr Comp	

Changes from Previous Permit & Explanation of Limits and Monitoring Requirements:

No changes from the previous permit. The parameters are standard monitoring requirements and frequency for minor municipal facilities with a biological treatment plant. Tracking of BOD_5, and Suspended Solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code.

2 Surface Water - Proposed Monitoring and Limitations

Sample Point Number: 003- EFFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Continuous	Continuous	
BOD5, Total	Monthly Avg	30 mg/L	Weekly	24-Hr Flow Prop Comp	
BOD5, Total	Weekly Avg	45 mg/L	Weekly	24-Hr Flow	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
				Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	45 mg/L	Weekly	24-Hr Flow Prop Comp	
Fecal Coliform	Geometric Mean - Monthly	400 #/100 ml	Weekly	Grab	Interim limit effective May - September annually until the final E. coli limit goes into effect per the "Effluent Limitations for E. coli" Schedule.
E. coli		#/100 ml	Weekly	Grab	Monitoring only May - September annually until the final limit goes into effect per the "Effluent Limitations for E. coli" Schedule.
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	Limit Effective May - September annually per the "Effluent Limitations for E. coli" Schedule.
E. coli	% Exceedance	10 Percent	Monthly	Calculated	Limit Effective May - September annually per the "Effluent Limitations for E. coli" Schedule. See the "E. coli Percent Limit" section below. Enter the result in the DMR on the last day of the month.
pH Field	Daily Max	9.0 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	
Phosphorus, Total	Monthly Avg	9.3 mg/L	Weekly	24-Hr Flow Prop Comp	Interim Limit
Phosphorus, Total		lbs/day	Weekly	Calculated	See "Phosphorus" subsection and "WI River TMDL" schedule for more information.
Phosphorus, Total		lbs/month	Monthly	Calculated	See "Phosphorus" subsection for more information. Report on the

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
					last day of the month.
Phosphorus, Total		lbs/yr	Monthly	Calculated	Calculated as a 12-month Rolling Sum reported on the last day of the month. See the "Phosphorus" subsection for more information.
Nitrogen, Ammonia (NH3-N) Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	See the "Total Nitrogen Testing" subsection for testing schedule.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	See the "Total Nitrogen Testing" subsection for testing schedule.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Total Nitrogen = Total Nitrogen Kjeldahl (mg/L) + Nitrate+ Nitrogen (mg/L). See the "Total Nitrogen Testing" subsection for testing schedule.

Changes from Previous Permit & Explanation of Limits and Monitoring Requirements:

The monitoring frequency and limits for **Flow**, **BOD5**, **Suspended Solids**, and **pH** have not changed from the previous permit term. All categorical limits are based on NR 104.02 and NR 210 (Subchapter II) Wis. Adm. Code. More information on calculating limits for these parameters as well as **E. coli**, **Ammonia**, **Phosphorus**, **Temperature**, and **Disinfection** can be found in the "Water Quality-Based Effluent Limitations for the Lake Tomahawk Township Sanitary District 1(WI-0036374-7-0)" memo dated June 18, 2020.

BOD and **Total Suspended Solids -** Categorical limits for BOD and TSS are required per NR 104 and 210.05, Wis. Adm. Code.

Fecal Coliform and **E. coli** – Fecal coliform monitoring and limits have been replaced with Escherechia coli (E. coli) monitoring and limits. E. coli monitoring is required at the permit effective date. An interim fecal coliform limit of 400 #/100 ml as a monthly geometric mean will apply from the permit effective date through the end of the schedule or upon submittal of the Operational Evaluation Report (OER) (due **April 30, 2022**) if it has determined compliance with the final limit has been achieved. If it is determined in the OER compliance can't be met by **April 30, 2022**, the interim limit will be effective until the end of the schedule. When compliance is achieved or the schedule ends (**April 30, 2025**) an E. coli limits of 126 #/100 ml as a monthly geometric mean that may never be exceeded and 410 #/100 ml as a daily maximum that may not be exceeded more than 10 percent of the time in any calendar month will apply.

The following equation should be used to calculate percent exceedances.

# of Samples greater than 410#/100
Total # of samples x 100 = % Exceedance

Revisions to bacteria surface water quality criteria to protect recreational uses and accompanying E. coli WPDES permit implementation procedures became effective May 1, 2020. The new rule requires that WPDES permits for facilities with required disinfection include monitoring for E. coli while facilities are disinfecting during the recreation period and establish effluent limitations for E. coli established in s. NR 210.06 (2), Wis. Adm Code. The administrative code rule changes included the following actions: revised the bacteria water quality criteria from fecal coliform to E. coli to protect recreation in ch. NR 102, Wis. Adm. Code; removed fecal coliform criteria for certain individual waters from ch. NR 104, Wis. Adm. Code; revised permit requirements for publicly and privately owned sewage treatment works in ch. NR 210, Wis. Adm. Code; and, updated approved analytical methods for bacteria in ch. NR 219, Wis. Adm. Code.

pH – Categorical limits for pH are required per ch. NR 210 (Subchapter II).

Phosphorus - Phosphorus requirements are based on the Phosphorus Rules that became effective 12/1/2010 as detailed in NR 102 Water Quality Standards and NR 217 Effluent Standards and Limitations for Phosphorus. Chapter NR 217 of the Wis. Adm. Code addresses point source dischargers of phosphorus to surface waters. Currently in NR 217 Wis. Adm. Code there are three methods used to determine if a phosphorus limit is needed: a technology based effluent limit (TBEL) and a water quality-based effluent limit (WQBEL) determined by stream criteria and a WQBEL based on a Total Daily Maximum Daily Load (TMDL).

In the case of Lake Tomahawk Sanitary District:

- A TBEL of 1 mg/L is needed if a facility discharges more than the threshold of 150 pounds per month (NR 217.04(1)(a)1 Wis. Adm. Code). The facility discharges less than the threshold (approximately 35 lbs/month).
- Based on the size and classification of the stream, the water quality criteria for the Wisconsin River is 75 ug/L. In this case, the WQBEL is 100 mg/L (monthly average). The WQBEL is not required this permit term because the TMDLWLAs (explained in the next bullet) are protective of the immediate receiving water.
- The facility lies within the boundaries of the Wisconsin River Total Maximum Daily Load (TMDL). The TMDL was developed to address phosphorus water quality impairments. The Wisconsin River TMDL for Total Phosphorus was approved by the U.S. Environmental Protection Agency on April 26, 2019. Additional Site-Specific Criteria (SSC) for Lakes Petenwell, Castle Rock, and Wisconsin and the related Waste Load Allocation (WLA) included in Appendix K of the TMDL report were approved by the U.S. Environmental Protection Agency on July 9, 2020. More information about the TMDL can be found at https://dnr.wi.gov/topic/tmdls/wisconsinriver/.

  The SSC-Based Waste Load Allocation (WLA) for Total Phosphorus is **60 lbs per year**, which equates to **0.31 lbs/day monthly average**. The existing treatment plant is currently not capable of achieving the WLA; therefore, a schedule to attain these limits has been included in accordance with NR 217.17. **An interim limit of 9.3 mg/L (monthly average**) has been included to keep the water from further impairment. The value reflects the 4-day P99 concentration of 9.3 mg/L over the past five years. The interim limit is in effect until the actions within the "WI River TMDL Waste Load Allocation Limits for Total Phosphorus" schedule have been satisfied.

  Calculation and reporting of the total mass of phosphorus discharged over the past 12 months is required to track progress in meeting the WLA is included. The 12-month rolling sum equals the sum of the most recent 12 consecutive months of total monthly discharges. This value should be reported on the eDMR on the last day of each month.

  Calculations needed are:

  - **Monthly Average Mass Discharge (lbs/day):** Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.
  - **12-Month Rolling Sum of Total Monthly Discharge (lbs/year):** Total monthly discharge = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34. Then sum the most

recent 12 consecutive months of Total Monthly Discharges. This value should be reported on the eDMR on the last day of each month.

Ammonia - Using current acute and chronic ammonia toxicity criteria found in Tables 2C and 4B of NR 105 Wis. Adm. Code (effective March 1, 2004) and limit calculating procedures (Subchapter IV of 106, Wis. Adm. Code (update effective September 1, 2016) ammonia limitations were calculated for the facility. Daily Maximum (70 mg/L) Weekly Average (3,900 mg/L) and Monthly Average (2,100 mg/L) limits were considered, but it was determined effluent ammonia limits are not needed this permit term because the mean effluent ammonia concentration is 14 mg/L.

Nitrogen Series (Nitrate +Nitrite, Total Kjeldahl Nitrogen and Total Nitrogen) **–** Based on the "Guidance for Total Nitrogen Monitoring in WPDES Permits" dated October 2019, annual effluent monitoring for Total Nitrogen (Total Nitrogen = Total Kjeldahl + (Nitrite+Nitrate)) is required for municipal and industrial facilities discharging to surface waters.

- April – June 2021
- July – September 2022
- October – December 2023
- January – March 2024
- April – June 2025

Thermal – Using the administrative rules for thermal discharges detailed in NR 102 Subchapter II Water Quality Standards for Temperature and NR 106 Subchapter V Effluent Limitations for Temperature effective October 2010, effluent thermal limits were calculated. The calculated thermal limits for Wisconsin River indicate a daily maximum temperature limit of 120 degrees F. At temperatures above 103 degrees F, conventional biological treatment systems do not function properly. There is no indication that this has ever occurred in this treatment system, therefore, limits are not required this permit term.

Whole Effluent Toxicity (WET) Testing - As the toxicity potential increases, Whole Effluent Toxicity Testing is required to assure toxicity is not occurring over the short (acute) and long (chronic) term. Chronic WET tests are not required when the ratio of receiving water flow to effluent flow exceeds 100:1 and Acute WET tests are not required if the ratio exceeds 1000:1. The ratio for this facility is approximately 1,000:1; therefore no acute or chronic WET tests are required this permit term.

3 Groundwater – Proposed Monitoring and Limitations

3.1 Groundwater Monitoring System for Abandoned WWTF

Location of Monitoring system: Adjacent to Abandoned Land Treatment System

Wells to be Monitored: 801 (MW1) BACKGROUND, 802 (MW2), 804 (MW4)

Well Used To Calculate PALs: PALs were not recalculated. Existing PALs were calculated using the background groundwater quality data existing prior to the system's installation since the existing wells have not been affected by the old land treatment system's discharge since 1999.

Enforcement Standard Wells: 804 (MW4)

Changes from Previous Permit & Explanation of Limits and Monitoring Requirements:

The recirculating sand filter system replaced a seepage cell system that discharged to groundwater in 1999. Due to high levels of nitrite-nitrate nitrogen in the groundwater monitoring wells surrounding the former wastewater treatment facility, monitoring of the groundwater wells has been required annually. Overall groundwater quality has reached the point where the Department will consider a formal request from the sanitary district for well abandonment and monitoring termination. Continued monitoring has been replaced with annual inspections (see the "Groundwater Monitoring Well Inspection" schedule for more information).

4 Septage Management - Proposed Monitoring and Limitations

Septage management is required in accordance ch. NR 113, Wisconsin Administrative Code. Records must be kept and made available to the Department on request. Required record keeping includes volumes of septage pumped, dates when the septage was removed, land application site DNR number and method used to satisfy pathogen and vector control, and/or the treatment plant where septage is disposed. Annual reporting is required when the permittee land applies the septage. Annual reporting is also required when the permittee disposes of septage at a designated treatment facility.

Sample Point Number: 990- SEPTAGE

Changes from Previous Permit:

No changes from the previous permit. Requirements for septage management are determined in accordance with ch. NR 113, Wis. Adm. Code.

5 Schedules

5.1 Effluent Limitations for E. coli

The permittee shall comply with surface water limitations for E. coli as specified. No later than 14 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance. If a submittal is required, a timely submittal fulfills the notification

Required Action	Due Date
Status Update: The permittee shall submit information within the discharge monitoring report (DMR) comment section documenting the steps taken in preparation for properly monitoring and testing for E. coli including, but not limited to, selected test method and location of sampling.	02/21/2021
Operational Evaluation Report: The permittee shall prepare and submit an Operational Evaluation Report to the Department for review and approval. The report shall include an evaluation of collected effluent data and proposed operational improvements that will optimize efficacy of disinfection at the treatment plant during the period prior to complying with final E. coli limitations and, to the extent possible, enable compliance with the final E. coli limitations. The report shall include a plan and schedule for implementation of the operational improvements. These improvements shall occur as soon as possible, but not later than **April 30, 2022**. The report shall state whether the operational improvements are expected to result in compliance with the final E. coli limitations. The permittee shall implement the operational improvements in accordance with the approved plan and schedule specified in the Operational Evaluation Report and in no case later than **April 30, 2022**. If the Operational Evaluation Report concludes that the operational improvements are expected to result in compliance with the final E. coli limitations, the permittee shall comply with the final E. coli limitations by **April 30, 2022** and the permittee is not required to comply with subsequent milestones identified below in this compliance schedule (‘Submit Facility Plan’, 'Final Plans and Specifications', 'Treatment Plant Upgrade to Meet Limitations', ‘Construction Upgrade Progress Report’, 'Complete Construction', 'Achieve Compliance'). FACILITY PLAN - If the Operational Evaluation Report concludes that operational improvements alone are not expected to result in compliance with the final E. coli limitations, the permittee shall initiate development of a facility plan for meeting final E. coli limitations and comply with the remaining required actions in this schedule of compliance.	12/31/2021

If the Department disagrees with the conclusion of the report, and determines that the permittee can achieve final E. coli limitations using the existing treatment system with only operational improvements, the Department may reopen and modify the permit to include an implementation schedule for achieving the final E. coli limitations sooner than **April 30, 2025**.	
Submit Facility Plan: If the Operational Evaluation Report concluded that the permittee cannot achieve final E. coli limitations with operational improvements alone, the permittee shall submit a Facility Plan per s. NR 110.09, Wis. Adm. Code. The permittee may submit an abbreviated facility plan if the Department determines that the modifications are minor.	04/30/2022
Final Plans and Specifications: The permittee shall submit final construction plans to the Department for approval pursuant to ch. NR 108, Wis. Adm. Code, specifying treatment plant upgrades that must be constructed to achieve compliance with final E. coli limitations and a schedule for completing construction of the upgrades by the complete construction date specified below.	03/31/2023
Treatment Plant Upgrade to Meet Limitations: The permittee shall initiate bidding, procurement, and/or construction of the project. The permittee shall obtain approval of the final construction plans and schedule from the Department pursuant to s. 281.41. Stats., prior to initiating activities defined as construction under ch. NR 108, Wis. Adm. Code. Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41, Stats., the permittee shall construct the treatment plant upgrades in accordance with the approved plans and specifications.	09/30/2023
Construction Upgrade Progress Report: The permittee shall submit a progress report on construction upgrades.	09/30/2024
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades.	03/31/2025
Achieve Compliance: The permittee shall achieve compliance with final E. coli limitations.	04/30/2025

5.2 WI River TMDL Waste Load Allocation Limit for Total Phosphorus

The permittee shall comply with the WQBELs for Phosphorus as specified. No later than 14 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance. If a submittal is required, a timely submittal fulfills the notification requirement.

Required Action	Due Date
Operational Evaluation Report: The permittee shall prepare and submit to the Department for approval an operational evaluation report. The report shall include an evaluation of collected effluent data, possible source reduction measures, operational improvements or other minor facility modifications that will optimize reductions in phosphorus discharges from the treatment plant during the period prior to complying with Wisconsin River TMDL Phosphorus Waste Load Allocation (WLA) limit and, where possible, enable compliance with TMDL WLA limit by **December 31, 2023**. The report shall provide a plan and schedule for implementation of the measures, improvements, and modifications as soon as possible, but not later than **December 31, 2023** and state whether the measures, improvements, and modifications will enable compliance with TMDL WLA limit. Regardless of whether they are expected to result in compliance, the permittee shall implement the measures, improvements, and modifications in accordance with the plan and schedule specified in the operational evaluation report. If the operational evaluation report concludes that the facility can achieve final phosphorus WQBELs using the existing treatment system with only source reduction measures, operational improvements, and minor facility modifications, the permittee shall comply with TMDL WLA limit by **December 31, 2023** and is not required to comply with the milestones identified below for years 3 through 9 of	12/31/2021

this compliance schedule ('Preliminary Compliance Alternatives Plan', 'Final Compliance Alternatives Plan', 'Final Plans and Specifications', 'Treatment Plant Upgrade to Meet TMDL WLA limit, 'Complete Construction', 'Achieve Compliance'). STUDY OF FEASIBLE ALTERNATIVES - If the Operational Evaluation Report concludes that the permittee cannot achieve TMDL WLA limit with source reduction measures, operational improvements and other minor facility modifications, the permittee shall initiate a study of feasible alternatives for meeting TMDL WLA limit and comply with the remaining required actions of this schedule of compliance. If the Department disagrees with the conclusion of the report, and determines that the permittee can achieve TMDL WLA limit using the existing treatment system with only source reduction measures, operational improvements, and minor facility modifications, the Department may reopen and modify the permit to include an implementation schedule for achieving the final phosphorus WQBELs sooner than **December 31, 2029**.	
Compliance Alternatives, Source Reduction, Improvements and Modifications Status: The permittee shall submit a 'Compliance Alternatives, Source Reduction, Operational Improvements and Minor Facility Modification' status report to the Department. The report shall provide an update on the permittee's: (1) progress implementing source reduction measures, operational improvements, and minor facility modifications to optimize reductions in phosphorus discharges and, to the extent that such measures, improvements, and modifications will not enable compliance with the TMDL WLA limit, (2) status evaluating feasible alternatives for meeting phosphorus TMDL WLA limit.	12/31/2022
Preliminary Compliance Alternatives Plan: The permittee shall submit a preliminary compliance alternatives plan to the Department. If the plan concludes upgrading of the permittee's wastewater treatment facility is necessary to achieve TMDL WLA limit, the submittal shall include a preliminary engineering design report. If the plan concludes Adaptive Management will be used, the submittal shall include a completed Watershed Adaptive Management Request Form 3200-139 without the Adaptive Management Plan. If water quality trading will be undertaken, the plan must state that trading will be pursued.	12/31/2023
Final Compliance Alternatives Plan: The permittee shall submit a final compliance alternatives plan to the Department. If the plan concludes upgrading of the permittee's wastewater treatment is necessary to meet TMDL WLA limit, the submittal shall include a final engineering design report addressing the treatment plant upgrades, and a facility plan if required pursuant to ch. NR 110, Wis. Adm. Code. If the plan concludes Adaptive Management will be implemented, the submittal shall include a completed Watershed Adaptive Management Request Form 3200-139 and an engineering report addressing any treatment system upgrades necessary to meet interim limits pursuant to s. NR 217.18, Wis. Adm. Code. If the plan concludes water quality trading will be used, the submittal shall identify potential trading partners. Note: See 'Alternative Approaches to Phosphorus TMDL WLA limit Compliance' in the Surface Water section of this permit.	12/31/2024
Progress Report on Plans & Specifications: Submit progress report regarding the progress of preparing final plans and specifications. Note: See 'Alternative Approaches to Phosphorus TMDL WLA limit Compliance' in the Surface Water section of this permit.	12/31/2025
Final Plans and Specifications: Unless the permit has been modified, revoked and reissued, or reissued to include Adaptive Management or Water Quality Trading measures or to include a revised	12/31/2026

schedule based on factors in s. NR 217.17, Wis. Adm. Code, the permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Stats., specifying treatment plant upgrades that must be constructed to achieve compliance with TMDL WLA limit, and a schedule for completing construction of the upgrades by the complete construction date specified below. (Note: Permit modification, revocation and reissuance, and reissuance are subject to s. 283.53(2), Stats.) Note: See 'Alternative Approaches to TMDL WLA limit Compliance' in the Surface Water section of this permit.	
Treatment Plant Upgrade to Meet WQBELs: The permittee shall initiate construction of the upgrades. The permittee shall obtain approval of the final construction plans and schedule from the Department pursuant to s. 281.41. Stats. Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41, Stats., the permittee shall construct the treatment plant upgrades in accordance with the approved plans and specifications. Note: See 'Alternative Approaches to Phosphorus TMDL WLA limit Compliance' in the Surface Water section of this permit.	03/31/2027
Construction Upgrade Progress Report #1: The permittee shall submit a progress report on construction upgrades. Note: See 'Alternative Approaches to Phosphorus TMDL WLA limit Compliance' in the Surface Water section of this permit.	12/31/2027
Construction Upgrade Progress Report: The permittee shall submit a progress report on construction upgrades. Note: See 'Alternative Approaches to Phosphorus TMDL WLA limit Compliance' in the Surface Water section of this permit.	12/31/2028
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades. Note: See 'Alternative Approaches to Phosphorus TMDL WLA limit Compliance' in the Surface Water section of this permit.	11/30/2029
Achieve Compliance: The permittee shall achieve compliance with TMDL WLA limit. Note: See 'Alternative Approaches to Phosphorus TMDL WLA limit Compliance' in the Surface Water section of this permit.	12/31/2029

5.3 Groundwater Monitoring Well Inspection

Required Action	Due Date
Inspect Wells Annually & Submit Report: The permittee shall annually inspect all groundwater monitoring wells surrounding the former land treatment system (wells 801 (MW1), 802 (MW2) and 804 (MW4)). The inspection shall determine the integrity of the wells. If any well is damaged it shall be repaired. The permittee shall maintain a record of the inspection dates, inspection findings and a record of any repairs performed, depth to groundwater and the groundwater elevation. The permittee shall submit a summary of the inspection activity by December 31 of each year.	12/31/2021
Submit Annual Inspection Report:	12/31/2022
Submit Annual Inspection Report:	12/31/2023
Submit Annual Inspection Report and Abandonment Feasibility Report: In addition to the annual inspection report, include a feasibility report that would evaluate the costs of abandoning the monitoring wells and the length of time needed to complete abandonment.	12/31/2024
Submit Annual Inspection Report: In the event that this permit is not reissued on time, the permittee shall continue to submit annual reports.	12/31/2025

Explanation of Schedules

Effluent Limitations for E. coli - A schedule is included in the permit to provide time for the permittee to investigate options for meeting new effluent E. coli water quality-based effluent limits while coming into compliance with the limits as soon as reasonably possible.

WI River TMDL Waste Load Allocation Limits for Total Phosphorus - The existing treatment plant is not capable of achieving the final water quality-based effluent limits. In accordance with NR 217.17 Wis. Adm. Code a schedule for attainment of this limit has been included.

The schedule includes optimizing the facility and if that is not technologically or economically feasible, NR 217 provides for alternative means of achieving the equivalent reduction of discharged phosphorus, including pollutant trading.

Groundwater Monitoring Well Inspection - The recirculating sand filter system replaced a seepage cell system that discharged to groundwater in 1999. Due to high levels of nitrite-nitrate nitrogen in the groundwater monitoring wells surrounding the former wastewater treatment facility, monitoring of the groundwater wells has been required annually. Overall groundwater quality has improved, and continued monitoring has been replaced with annual inspections. As part of the fourth year report the facility shall evaluate the cost of abandoning the three monitoring wells and estimate the time needed to complete the action.

Attachments:

Water Flow Schematic

"Water Quality-Based Effluent Limitations for the Lake Tomahawk Township Sanitary District 1(WI-0036374-7-0)" memo dated June 18, 2020

Proposed Expiration Date:

December 31, 2025

Justification Of Any Waivers From Permit Application Requirements

A decision has been made not to require effluent monitoring for metals in the application because of the very low design flow (0.0537 MGD) of this facility; the low actual flows (an average of 0.023 MGD); and the wastewater is all domestic with no industrial contributors to the collection system. In addition, Lake Tomahawk SD does not have a public water supply system and does not have any control over corrosivity in the influent wastewater.

Prepared By:

Sheri A. Snowbank Wastewater Specialist

Date: August 27, 2020

cc: Austin Griesbach, Rhinelander